

DOCKET NO. 108430.023A**PATENT**

Serial No. 10/053,449

Response to Office Action Dated August 11, 2004

Listing of the Claims

The following listing of the claims is intended to replace prior versions, listings, or recitations of the claims in the present application.

Claim 1 (Previously Presented) A wafer carrier comprising:

a wire frame having three load-supporting members having wafer engaging elements for supporting at least one wafer in a substantially vertical orientation; and

the wafer carrier having a width that is smaller than the diameter of wafers being supported by the wafer carrier.

Claim 2 (Original) The wafer carrier of claim 1 wherein the wafer engaging elements are saw-toothed profiles, grooves, or slots.

Claim 3 (Original) The wafer carrier of claim 1 wherein the wafer engaging elements of the three load-supporting members are parallelly aligned.

Claim 4 (Original) The wafer carrier of claim 1 wherein the wafer engaging elements are saw-toothed profiles having wafer contact edges.

Claim 5 (Previously Presented) A wafer carrier comprising:

a wire frame having three load-supporting members having wafer engaging elements; and

wherein each load supporting member has an elliptical cross section having a major thickness and a minor thickness.

Claim 6 (Original) The wafer carrier of claim 5 wherein each load supporting member is oriented so that the major thickness of its elliptical cross section is aligned in the load bearing direction.

Claim 7 (Original) The wafer carrier of claim 5 wherein the minor thickness of each load-supporting member is no more than about 0.5 inches.

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Claim 8 (Original) The wafer carrier of claim 5 wherein the three load supporting members consist of a bottom support member and two side support members.

Claim 9 (Original) The wafer carrier of claim 8 wherein the major thickness and minor thickness of the bottom support member are larger than the major thickness and minor thickness of the two side support members respectively.

Claim 10 (Original) The wafer carrier of claim 9 wherein the minor thickness of the bottom support member is no more than about 0.5 inches.

Claim 11 (Cancelled)

Claim 12 (Original) The wafer carrier of claim 1 wherein the wire frame is chemically resistant and is adapted to withstand thermal cycling at temperatures of 1800°C with no substantial creep deformation.

Claim 13 (Original) The wafer carrier of claim 12 wherein the wire frame is constructed of a fluoropolymer.

Claim 14 (Cancelled)

Claim 15 (Currently Amended) A The wafer carrier of claim 14 comprising:

a wire frame having three load-supporting members having wafer engaging elements; and
the wire frame constructed so as to have an inner core and an outer coating;
wherein the inner core is made of a fluoropolymer.

Claim 16 (Currently Amended) A The wafer carrier of claim 14 comprising:

a wire frame having three load-supporting members having wafer engaging elements; and
the wire frame constructed so as to have an inner core and an outer coating;

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wherein the inner core is made of material selected from the group consisting of ceramic, polyetherketoneketones with carbon fiber, stainless steel, and polyetheretherketones.

Claim 17 (Currently Amended) A The wafer carrier of claim 14 comprising:

a wire frame having three load-supporting members having wafer engaging elements; and

the wire frame constructed so as to have an inner core and an outer coating;

wherein the outer coating is a fluoropolymer.

Claim 18 (Currently Amended) A The wafer carrier of claim 14 comprising:

a wire frame having three load-supporting members having wafer engaging elements; and

the wire frame constructed so as to have an inner core and an outer coating;

wherein the outer coating is either a suitable perfluoralkoxy or a copolymer of ethylene and chlorotrifluoroethylene.

Claim 19 (Currently Amended) A The wafer carrier of claim 14 comprising:

a wire frame having three load-supporting members having wafer engaging elements; and

the wire frame constructed so as to have an inner core and an outer coating;

wherein the wafer engaging elements are molded into the outer coating.

Claim 20 (Previously Presented) A wafer carrier comprising a wire frame having three load-supporting members having wafer engaging elements; wherein the wafer engaging elements of the three load supporting members are a plurality of parallelly aligned saw-toothed profiles having wafer contact edges; each load supporting member has an elliptical cross section having a major thickness and a minor thickness; each load supporting member is oriented so that the major thickness of its elliptical cross section is aligned in the load bearing direction; the three load supporting members consist of a bottom support member and a two side support members;

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the major thickness and minor thickness of the bottom support member are larger than the major thickness and minor thickness of the two side support members respectively; the minor thickness of the bottom support member is no more than about 0.5 inches; the width of the wafer carrier is less than the diameter of the wafers being supported by the wafer carrier; the wafer carrier is chemically resistant and is adapted to withstand thermal cycling at temperatures of 1800°C with no substantial creep; the wire frame is constructed so as to have an inner core and an outer coating wherein the inner core is ceramic and the outer coating is a fluoropolymer; and the saw toothed profiles are molded into the outer coating.

Claim 21 (Original) A method of processing wafers comprising loading wafers in the wafer carrier of claim 1; introducing the loaded wafer carrier into a process tank; treating the wafers in the carrier with a liquid; and drying the wafers.

Claim 22 (Original) A process tank which comprises the wafer carrier of claim 1.

Claim 23 (Original) The process tank of claim 22 comprising a rinsing tank, a drying tank, or a chemical treatment tank.

Claim 24 (Cancelled)